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**A Contribution towards the knowledge of the Odyneridæ
of the Southwest of the United States.**

BY P. CAMERON.

The species recorded and described in this paper were sent me by Prof. C. F. Baker. The Vespidae of Nevada, California and Texas are comparatively little known. In point of fact not much has been done towards the elucidation of the Solitary Wasps of the United States since the appearance of the well-known monograph of Dr. Henri de Saussure. I hope shortly to prepare and publish a synoptical table of the North American species.

Monobia quadridens Say.

Fedor, Texas.

A variable species as regards the size and form of the yellow markings.

Odynerus arvensis Sauss.

The four examples of this species examined are not alike. In none of them is the apex of the clypeus quite as shown by Saussure (Syn. Am. Wasps, f. 16*a*), but then its apex is not identical in Prof. Baker's specimens which are from Texas (Fedor). The black apical mark on the clypeus varies in size and form; it may be regular or irregular; the extreme apex may be black, red, or have two small yellow marks. The black apical mark on the first abdominal segment varies in size and form; in one specimen it is small, narrowed greatly at the base and apex, dilated laterally, the lateral projection being wide on the inner, gradually narrowed on the outside. The legs are reddish or yellow, tinged with rufous. The head and thorax are densely covered with gray pubescence. In all the specimens there is a large yellow or rufous spot on the sides of the scutellum. Apical half of mandibles rufous, the black basal half with a yellow mark. There may be a small yellow lateral mark on the second abdominal segment.

Odynerus annulatus Say.

This is a most variable species as regards coloration; the sculpture varying also, some specimens being much more strongly punctured than others. Some specimens have the wings more deeply and broadly fuscous-violaceous than others. Other examples come

close in size and coloration to *O. dorsalis* Fab. Characteristic is the form of the clypeus, which is broader than usual, clearly broader than long; the apex broad, transverse, with the sides ending in minute teeth. It has been taken at Fedor, and Lee County, Texas; Oslar: Prescott, Phoenix and Congress, Arizona; Clear Creek and Berkeley, Colorado.

***Odynerus orasus* sp. nov.**

Black; the clypeus, base of mandibles, underside of scape, a mark with a short pedicle below, gradually dilated from below upwards, the eye incision from the face to the end of the incision, a narrow transverse line on the base of the pronotum, postscutellum, the apical half of the first abdominal segment broadly on the sides, more narrowly on the apex, a large, transverse, oval mark on the sides of the second segment and the apices of the third to fifth more narrowly, lemon-yellow; the middle of mandibles, pronotum except at the base, tegulæ, the sides of metanotum and the sides of the first abdominal segment round the lateral yellow expansion—broadly on the inner side—and the legs, except at the coxæ, rufous. Wings hyaline, the costal and radial cellule smoky violaceous. ♂. Length (total) 11 mm.

Head above closely but not strongly punctured; the clypeus only sparsely punctured; the latter as wide as long, broadly rounded above, the apex with a deep, wide incision. The antennal hook long, reddish, reaching close to the base of the penultimate joint. Base of thorax transverse, the sides not distinctly projecting. Apical slope of postscutellum smooth, transverse; a deep striated furrow on the metanotum immediately below it. Sides of metanotum rounded, not margined, rugose. First abdominal segment cup-shaped, smooth; the other segments are closely punctured, the second less strongly than the others; its apex broadly depressed, the depression extending beyond the yellow line and is broader in the centre; the apex is slightly incurved, smooth, with a band of deep punctures behind, there being a similar band of larger and deeper punctures on the others. Coxæ black, the four anterior yellow below; the four anterior femora are yellow at the apex below; the hind coxæ and trochanters are black.

Fedor, Texas; August.

This species might be matched with one of the numerous varieties of *O. annulatus* Say; the incised apex of the clypeus readily separates the male from the latter, which has it not deeply incised, but transverse, with the sides slightly toothed.

***Odynerus scudderi* sp. nov.**

Black; the sides of the clypeus broadly, a narrow line on the base of the mandibles, a mark over the antennæ, broader than long, transverse above, gradually roundly narrowed below, ending there in a nipple-like point, a line on the upper outer orbits, the line reaching to near the middle, a line on the base of thorax, narrowed in the middle, the sides rounded, a small irregular spot below the tegulæ, a small spot on the sides of the scutellum, and broad bands on the apices of the basal five abdominal segments, that on the first broadly narrowed in the middle; a complete band on the apex of the second ventral and triangular spots

on the sides of the following three segments, luteous. Wings bright fulvous, the apex tinged with fulvous; the costa and stigma bright rufo-fulvous, the nervures darker colored. ♀. Total length 10 mm.

Clypeus distinctly longer than wide; in its centre is a black mark extending from top to bottom, the top square, from there it becomes gradually widened to the middle, then gradually narrowed to near the apex, which ends in a clearly separated angle; the sides of the mark are irregular, the apex is transverse. Apex of postscutellum smooth, transverse. The sides of metanotum become gradually widened to a point in the middle from above and below; the apex is closely, finely, obliquely striated. Pro- and mesothorax rugosely punctured. Metapleuræ closely distinctly striated, the lower basal part more finely than the rest. First abdominal segment cup-shaped, smooth, as wide as the second, which is distinctly wider than long. The head, thorax and base of abdomen are densely covered with long, fuscous black hair. The base of the thorax is transverse, its sides not projecting.

This species shows an approach to *Hypodernus*.

***Odynerus crotchii* sp. nov.**

Black; the clypeus, antennal scape, a line on the basal third of the pronotum, a narrow, more or less interrupted line on the upper edge of the pronotum, tegulæ, except for a brown spot in the middle, a large conical mark, obliquely truncated above, on the pleuræ below them, scutellum, a mark on the sides of postscutellum, an oblique, oval transverse spot on the sides of metanotum below, a line on the apex of the first abdominal segment above, one all round on the apex of the second, the upper line dilated laterally, the lower one broadly dilated in the centre, a line on the top of the fourth segment, the apex of the femora, the tibiæ and the tarsi, sulphur-yellow, the basal parts of the legs rufous. Wings highly iridescent, the front part and apex broadly violaceous, the nervures and stigma black. ♀. Total length 7 mm.

Head coarsely punctured, the clypeus with the punctures more widely separated, it is as long as wide, its apex ending in two stout teeth, the part between them being depressed. Thorax narrower than the head, its base margined, quite transverse, the sides of its apex broadly rounded, with a distinctly defined furrow down the centre, the sides below with two stout teeth, the upper broad. Base of postscutellum with a broad, raised, coarsely crenulated ridge, its apex bluntly rounded. First abdominal segment longer than it is wide at the apex, the base smooth, distinctly pedunculated, the rest coarsely, closely punctured; the second is more finely and more closely punctured, except at the apex, where there is a more strongly punctured belt, which is slightly depressed in the middle; the segment is longer than wide and is distinctly narrowed at the base.

The male is similarly colored, the clypeus yellow, with a semi-circular incision in the apex; the coloration is the same, except that the yellow markings are smaller and the legs are black to near the apex of the femora; the antennal scape is yellow below; the hook is short, narrow, not reaching to the base of the joint. The pubescence in both sexes is silvery.

Lee County, Texas; May.

Belongs to Saussure's Section B, *a*.

Odynerus (Pachodynerus) cressoni sp. nov.

Black; a broad curved line, dilated above, on the top of the clypeus, an oblique mark, longer than wide, on the sides of the apex, a small squarish mark over the antennæ, a curved line, dilated on the innerside, on the eye incision, a short line on the top of the outer orbits, a line on the base of the pronotum, narrowed in the middle, a large mark, longer (counting from the top to the bottom), narrowed and transverse below; the postscutellum, sides of metanotum broadly, distinct bands on the apices of the basal five abdominal segments, that on the first dilated at the base and a semi-circular mark (its base transverse, the apex rounded) on the sides of the second segment, pale yellow, as are also the under side of the antennal scape; the extreme apex of the clypeus of the apical half of the mandibles rufous. Wings hyaline, tinged with fuscous violaceous; the radial cellule darker, distinctly violaceous. Legs bright rufo-fulvous, the coxæ, trochanters and base of femora black; the apex of femora and base of tibiæ largely yellow. ♀. Length to end of second segment 9 mm.

Closely punctured and covered with a gray pile; the apices of the basal three abdominal segments more strongly, deeply, irregularly punctured; the apex of the second strongly reflexed, depressed behind the raised part, the depression with yellow longitudinal keels, the part between them black; this depression behind is bordered by a band of yellow rugosities; the apex of the third is also reflexed but not so strongly, and is bordered with similar yellow rugosities. Apex of clypeus slightly depressed, transverse. Postscutellum raised, strongly punctured throughout; the apex of the yellow part is roundly curved. Sides of metanotum rounded; below projecting into longish oblique teeth. The second and third ventral segments have their apices yellow and are more strongly punctured than the rest. Base of thorax transverse, raised, slightly projecting on the outside.

The black on the fore femora below extends beyond the middle, on the four hinder below closely to the middle. Tegulæ large, rufous, yellow at the base.

The coloration of the male is nearly the same, but with the yellow much more extended; the clypeus is yellow; the mark on the front is larger, longer and roundly bifurcated above; the eye incision is broadly yellow; the mandibles are yellow at the base and below, except at the apex where they are rufous; the femora and trochanters want the black; the coxæ are yellow below; the tibiæ and base of tarsi are largely yellow in front. The flagellum of antennæ is rufous, except on the top. Tegulæ yellow, with a rufous spot in the middle.

The apex of clypeus has a triangular incision; the clypeus is shining and sparsely punctured. The antennal hook is broad, black and bluntly rounded at the apex; it is larger and broader than usual. The hind tibiæ are peculiarly formed; they have the lower edge at the apex roundly, broadly dilated, this dilated part being clearly separated. The spot on the second abdominal segment is larger, more irregular and obliquely oval; the yellow line on the first segment is largely dilated backwards laterally; the line on it broader and dilated in the middle; it has the same depression and rugosities as has also the third, but not so strongly developed; the three apical lines are almost white. Also the yellow on the postscutellum projects into the dilated part behind, it being consequently not quite transverse as in the ♀.

Osler: Las Vegas, New Mexico; July. Allied to *O. toas* Cress. Characteristic is the dilated apex of the ♂ hinder tibiæ.

Odynerus (Pachyodernus) oslarensis sp. nov.

Black, densely covered with a short pale pile, the pile on the top of the mesonotum tinged with fulvous; a small spot on the outer orbits near the top, two short lines on the hinder edge of the pronotum, an irregular, more or less interrupted line on the centre of the postscutellum, a moderately broad line on the apex of the basal two abdominal segments, and a narrower, less distinct one on the apex of the third, bright orange-yellow; the markings on the thorax paler than those on the abdomen. Legs densely covered with a pale pile. Wings obscured hyaline, fuscous violaceous in front, the nervures and stigma black. ♀. Length to end of second segment nearly 10 mm.

Clypeus clearly longer than its greatest width; the apex depressed, projecting, slightly roundly incised, its sides thickened; the punctuation is strong, close and uniform; the punctuation of the front and vertex is coarser, closer and more rugose; there is a smooth, shining, triangular tubercle, furrowed in the middle, between and shortly above the antennæ. Thorax transverse at the base and apex, strongly closely punctured, the base of metapleuræ smooth, the rest irregularly, obliquely striated. The two furrows on the apex of the mesonotum are distinct, but not deep. Postscutellum clearly separated by a furrow behind; it is raised, rounded, coarsely rugosely punctured, its apical slope smooth, shining, transverse. Metanotum irregularly shagreened, more strongly and obliquely above; in the middle above is a small, smooth, shining triangular area; from its centre and sides a keel runs down to near the middle, the part below them being smooth, flat and slightly raised; the sides at the angle above the middle project into three teeth, of which the central is the larger. The first abdominal segment is weakly, the base of the second more strongly, its apex still more strongly and the third to fifth coarsely rugosely punctured.

Oslar: Congress, Arizona.

In Saussure's arrangement this species would come near *O. californicus*.

Odynerus (Hypodernus) longipilosus sp. nov.

Black; an irregular ovate mark on the sides of the clypeus above; a small transverse oval mark over the antennæ, a minute one behind the top of the eyes, a line on the base of the thorax, the base and apex of tegulæ, a small irregular mark below the latter, and narrow but distinct lines on the apices of the basal four abdominal segments, the apical two narrower than the others, white, very slightly tinged with yellow; the greater part of the tibiæ pale yellow, the tarsi rufous. Wings hyaline, distinctly tinged with fulvous in front; the costa and stigma rufo-fulvous. ♀. Length 12 mm.

Head, thorax and base of abdomen densely covered with long fuscous hair. Clypeus pyriform, as broad as long, its apex somewhat broad, almost transverse, distinctly punctured; the rest of the head and the thorax closely, strongly punctured. Thorax fully twice longer than wide, its base not quite transverse, the sides not projecting; the apex with the sides blunt. Parapsidal furrows indicated weakly in the middle; the middle of mesonotum broadly depressed at apex. Apex of post-scutellum transverse, aciculated. Base of first abdominal segment smooth and shining below, rougher above, the suture not prominent; the segment above is bluntly rounded; the second segment square, finely minutely punctured; the apices of the segments are flat.

Golden, Colorado; San Miguel, Colorado (Osler).

Except that the base of the first abdominal segment above is roughened, showing an approach to *Ancistrocerus*, this species agrees fairly well with *Hypodernus*, which section is rare in the Nearctic region. It is more slenderly built than the typical forms of that group. The sides of the metanotum being margined (but not very strongly), may cause one to refer it to Saussure's Section 1 of *Ancistrocerus*, with the rugosity on the top of the first abdominal segment.

The group of *fedorensis* Cam. (*rufinodis* Cress.).

This is a group of small-sized species, with the greater part of the median segment, the basal segment of abdomen and the legs red.

NOTE.—There does not appear to be any clear line of demarcation between *Odynerus s. str.* and *Ancistrocerus*. The suture may be distinct or merely indicated by the basal slope not being so strongly punctured as the rest.

The grouping of the species may be regarded as my first attempt to range the species according to their natural affinities.

***Odynerus fedorensis* sp. nov.**

Black, the median segment, first abdominal segment and the legs red; the clypeus, basal half of mandibles, a mark roundly dilated laterally above, under-side of antennal scape, a broad, interrupted line on the pronotum, a broad curved line across the apex of the scutellum, base, apex and outside of the tegulæ, a large mark, transverse above, rounded below, on the mesopleuræ below the tegulæ, a band on the first and second abdominal segments, that on the second all round, and a large, irregularly rounded mark on the sides of the second abdominal segment, yellow; the tarsi are blackish; there is a yellow mark on the apex of the fore femora behind, and the four anterior tibiæ are yellow in front. Wings hyaline, the radial cellule smoky, the stigma and nervures fuscous. ♂. Length to end of second abdominal segment 6 mm.

First abdominal segment cup-shaped, except at the base, closely strongly punctured; the apex distinctly curled up and more strongly punctured; the second segment is closely punctured, more strongly towards the apex, which is more strongly reflexed than the first, its base clearly narrowed. Clypeus broader than long, obliquely narrowed laterally above, coarsely, closely punctured; its apex is shortly, bluntly bidentate; deeply depressed above. Head above closely strongly punctured; the eye incision thickly covered with silvery pubescence; the space between the hinder ocelli is depressed; occiput transverse, the temples are longer than the eyes above; there is a small yellow spot on them above. Base of thorax transverse, the lateral angles acute. Apex of postscutellum transverse, the apical slope smooth. Apex of metanotum not much excavated, furrowed down the middle; the centre and outer edges punctured, the rest smooth; below, on the sides, is a longish sharp spine. Antennæ stout; the apical hook does not reach to the apex of the last joint. The middle of the mandibles is red. Palpi blackish, as are also the anterior coxæ and trochanters.

Fedor, Texas. This is an *Odynerus* sensu str.

It is possible that this may be the ♂ of *O. rufinodus* Cress. from New Mexico; there are some essential differences, however, not of a sexual nature; e. g. *rufinodus*, according to the description, has no marks on the second abdominal segment, no mark on front, the scutellum has two spots, not a continuous line, the posterior tarsi only are dusky, and the fore legs are red at the base. The systematic position of *O. rufinodus* is not stated, but presumedly it is an *Odynerus* sensu str.

***Odynerus heterospilus* sp. nov.**

Black, the pronotum, postscutellum, median segment, first abdominal segment, underside of second broadly in the middle, apex of clypeus and greater part of mandibles red; yellow are a spot on front, the inner portion of the eye orbits, a small spot on the outer orbits near the top, the centre and outer edge of pronotum, greater part of tegulae, a broad line on apex of scutellum, the apex of the first abdominal segment above, the second more broadly, the line at the sides above directed broadly, obliquely backwards and below on to the sides to the red central line, the apex of the fourth segment broadly yellow in the middle above. Except at the base, the four front legs are red; the fore femora are marked with yellow at the apex; the apical half of hinder femora red; the middle tibiae and tarsi are darker colored. Wings almost hyaline, the radial cellule fuscous violaceous, the nervures and stigma black. ♀. Length to end of second abdominal segment 5 mm.

Eye incision, face and clypeus densely covered with silvery pubescence. Head strongly, closely punctured. The front and vertex sparsely covered with short, white pubescence. Clypeus broader than long, rounded above; its apex incised, the sides of the incision forming sharp, triangular teeth; not much depressed above. Base of thorax not quite transverse, the centre slightly retreating. Apex of postscutellum roundly dilated. First abdominal segment large, cup-shaped; a slight depression in its middle at the apex; the second is not so strongly punctured as it; it is longer than usual compared with the breadth; the apices of the segments are not reflexed. The flagellum of antennae reddish-brown below.

Fedor, Texas.

This species is probably variable as regards the amount of red it bears; the red may be absent from the clypeus, on round the edges on the prothorax, on the sides only of the median segment, and the red on the first abdominal segment may be marked with black.

The three little species of this coloration should be separated thus:

a. First and second abdominal segments reflexed.

Second abdominal segment immaculate, no mark on front.

***rufinodus* Cress.**

Second abdominal segment with a yellow mark on the base; front maculate.

***fedorensis*.**

- b. First and second abdominal segments not reflexed (the postscutellum rufous; the line on the apex of second abdominal segment dilated obliquely backwards in the middle, the prothorax marked with rufous).

heterospilus.

The group of *chelonogaster* Cam.

This forms a well marked group from the form of the second abdominal segment, which is longer than usual, and has the sides and apex margined by a projecting brim; characteristic, too, is the raised apical margin of the basal two segments, the raised part being narrowed in the centre. The apical segments are hid under the large second and are minute. The median segment and the legs are bright red.

***Odynerus chelonogastrus* sp. nov.**

Black, densely pruinose, the pile giving it a whitish appearance; the apical two-thirds of the clypeus broadly in the middle, mandibles, underside of antennal scape, the greater part of the metanotum, the metapleuræ except round the top and apex and almost the basal two-thirds of the first abdominal segment red; the upper half of the sides of clypeus (the base above is black in the centre), a large mark in the eye incision, a short line on the upper outer orbits, the apex of the pronotum, a triangular mark on the sides of the apex of scutellum, the apical half of postscutellum, the base and apex of tegulæ (their centre red), a pyriform mark on the pleuræ below the tegulæ, a line on the apex of first abdominal segment, its centre with two rounded dilatations, the part between being rounded and narrowed on the innerside; laterally the line is continued backwards to the red base; there is a broader line on the apex of the second segment, with a rounded incision in the middle, the line laterally continued near to the apex of the basal third, where it is broadened and is shortly prolonged towards the centre of the segment. Legs red, the tarsi black; the tibiæ with a white line on the outside. Wings hyaline, the nervures and stigma black. Flagellum of antennæ brownish-red below. ♀. Length to end of second abdominal segment 8 mm.

Head closely punctured, covered with silvery pile; the clypeus broader than long, less closely punctured than the front; its apex has a rounded incision. Base of thorax transverse, the sides not projecting. Postscutellum large, its apex broadly rounded, as are also the sides of median segment.

Oslar: Jerome, Arizona.

This is a peculiar species as regards the form of the basal two abdominal segments; the white apex of the first abdominal segment is roundly raised—broadly, not curled up as with many species—with a rounded depression between the dilated central part; the apex of the second is similarly but not so distinctly raised and with a transverse furrow at the apex of the incision; beyond the white border there is a thin raised margin, which is continued backwards along the lower edge of the segment to near its base; the

second is nearly twice longer than wide; the apical segments are curled up under the second, the whole abdomen reminding one of the Braconid genus *Chelonus*.

The group of *Ancistrocerus nigro-hirsutus*.

Large fulvo-rufous species, marked with black and yellow, densely haired, the front and vertex black in the centre, bordered by rufous lines; the antennæ black, broadly rufous at the base; clypeus ending in two small teeth; apex of second abdominal segment strongly curled up. Metanotum angled laterally and margined round the top (*nigro-hirsutus*) or broadly rounded laterally, without keels above (*tuberculiceps*). A distinct group.

***Ancistrocerus ? nigro-hirsutus* sp. nov.**

Length to end of second abdominal segment 13 mm.

Black, densely covered with long black pubescence; the clypeus, apex of first abdominal segment narrowly, almost the apical half of the second and the whole of the others pale lemon-yellow; red are a broad line on the inner eye orbits commencing at the clypeus, extending above to behind the ocelli, where they almost unite behind; the outer orbits broadly, the line gradually narrowed above and below, above extending on to the hinder edge of the vertex, the prothorax broadly above, a small mark on the mesonotum behind the middle, the greater part of the scutellums, a mark twice longer than wide and of equal width, a mark on the outerside of the base of the metanotum, a broad band on the first abdominal segment between the broad black base and the narrow yellow apex, and the centre of the second segment, the base having a narrow black band. Basal two or three joints of the antennæ red. Legs rufous; the coxæ, trochanters and base of femora before and behind black. Wings fuscous-violetaceous, the base broadly fulvous; the costa and stigma dark testaceous. ♀.

Clypeus, if anything, broader than long, gradually, obliquely narrowed from the eyes to the apex, which ends in two shining blunt teeth; strongly punctured and covered with black hairs. Front and vertex strongly, closely punctured; there is a flat depression behind the hinder ocelli; behind them are two small shining tubercles. The head is more densely covered with black hair than the thorax. Thorax strongly punctured; its base transverse, the lateral angles slightly projecting. There is a narrow furrow or impressed line down the middle of the scutellum. Postscutellum broadly roundly narrowed behind; the apical slope smooth. Base of metanotum behind the keel closely punctured, the rest weakly punctured, striated towards the apex; there are two rounded keels on the top of metanotum; there is a smooth shining line down the centre. First abdominal segment cup-shaped; the apex more strongly punctured than the rest, with the apical margin curled up slightly; the apex of the second is strongly reflexed; the part behind the margin is broadly depressed, the part behind the depression being more distinctly and broadly raised on either side of the middle than elsewhere. The second segment is distinctly longer than wide; below, at the base, it projects distinctly below the first; the punctuation on the third and following segments is close and strong, but becomes weaker towards the apex.

This species has the general coloration of *A. tuberculiceps*, the chief difference being that there is a spot, not two lines, on the mesonotum, only one mark on the mesopleuræ, and that the frontal lines unite behind the ocelli; the body is densely haired, the hair being black, not gray; structurally it differs in having the top of the metanotum margined by rounded keels, the sides being bordered by weaker keels; it is a larger species and the centre of the second abdominal segment is roundly, broadly tuberculate; the suture on the base of the abdomen is weak. ♀.

Boulder, Colorado.

Belongs to Saussure's Section 1, Syn. of Am. Wasps, p. 159.

***Odynerus tuberculiceps* Sauss.**

What agrees fairly well with the above Mexican species has been taken at Oslar, Las Vegas, New Mexico. The only difference which I can make out, without a type, is that the red line round the inner orbits is interrupted by a black oblique one which runs from the black on the vertex to the inner top of the eyes (judging by Saussure's figure on Pl. XVI, f. 9, 10a), but according to the description in Syn. of Am. Wasps, 185, the line is interrupted "at the summit." The frontal red line on the Las Vegas specimen commences at the top of the eye incision, is broad, has two incisions on the innerside, is narrowed and roundly curved at the top towards the tubercle. There are three red spots on the mesopleuræ, a large wide irregularly oval basal one, followed by a much narrower, more oblique one, sharply pointed above, broader and more rounded below, these two running from above downwards; below them is a line of about the same size as the apical one, but running from the base to the apex of the pleuræ. In having the body densely covered with gray pubescence, in having a shining tubercle above the ocelli, in the front ocelli being the larger, in the apex of the clypeus being shortly bluntly bidentate, and in the general coloration it agrees with the figure and descriptions of *tuberculiceps*.

The group of *Ancistrocerus lineativentris* Cam.

Black, the lighter markings bright sulphur-yellow; the basal two abdominal segments with large black marks at the base, the marks roundly broadly, or narrowly and deeply incised laterally. The body densely haired; the sides of pronotum projecting or not.

To this group might be referred *auranus* Cam. if it were not that

there is no trace of a suture on the first abdominal segment. Also *cytainus* Cam. It appears to be a group characteristic of California and the southwest; *O. sulphureus* Sauss. may be taken as the type.

a.—*Lateral angles of pronotum distinctly projecting.*

To this section belong *lineativentris* Cam. and *sutteranus* Sauss.

b.—*Lateral angles of pronotum not projecting, rounded.*

To this section belong *O. cytainus* Cam., *O. visellus* Cam. and *O. auranus* Cam., having the same coloration and arrangement of abdominal black markings, but they appear to belong to *Odynerus* s. str. As a matter of fact, it is difficult, with these insects, to find a hard and fast line between *Odynerus* and *Ancistrocerus*.

A. spilogaster Cam. merely differs in the yellow spot on the second abdominal segment being enclosed all round. It has the projecting pronotal angles of *sutteranus*. *A. claremontensis* Cam. has also the spot enclosed. *Pachyodernus cosmiogaster* Cam. has, except as regards the absence of the abdominal suture, the characteristic of the group.

***Ancistrocerus fulvitaris* sp. nov.**

Black; the sides of clypeus broadly on the upper half, a small roundish mark over the antennæ, a short, sharply-pointed line on the base of mandibles, a short line on the upper outer orbits above, a line on the base of pronotum, not extending laterally beyond the basal third, base and apex of tegulæ, two large marks on the scutellums, an oval mark on the pleuræ below the tegulæ, the apex of the first abdominal segment broadly, the line dilated broadly backwards on the sides to the top of the apical slope, the apex of the second broadly, this line dilated behind into an irregular triangular incision, its outer basal half being irregularly bordered with black; the apices of the third, fourth and fifth broadly, two small marks in the middle of the sixth, the second ventral segment except for a broad curved irregular mark on the sides, united to a broad transverse one at the base, the apex of this being broadly rounded and ending in a short reversed T-shaped mark and a broad curved line on the apices of the others, bright sulphur-yellow, except the last which is entirely black. The apices of the femora narrowly and the tibiæ sulphur-yellow; the tarsi rufous-fulvous. Wings hyaline, tinged with fulvous at the base, the apex with fuscous; the stigma dark testaceous. ♀. Total length 11 mm.

Head, thorax and base of abdomen thickly covered with fuscous pubescence. Head, prothorax and mesothorax closely, strongly punctured; the metanotum and lower part of metapleuræ aciculated. Clypeus as wide as long, rounded above, the narrowed apex depressed, smooth; it is not quite transverse, having a slight curve; the clypeus is somewhat strongly punctured, more or less strigose towards the apex. The centre of the mesonotum is depressed in the middle at the apex, the depression bordered by two longitudinal furrows. Metanotum finely obliquely striated; the upper, outer part bordered by a curved keel, the keel continued, but not distinctly down the sides. Base of postscu-

tellum raised, strongly rugosely punctured; the apex aciculated, transverse. The first abdominal segment cup-shaped; the basal slope smooth; the rest punctured, strongly towards the apex which has a smooth border, behind which is a row of strong punctures. The second segment is as wide as long, strongly, closely punctured; its apex is not reflexed; the other segments are closely punctured. Base of thorax transverse, the sides rounded.

Santa Clara Co., California (Baker).

A broad, stout species, with the head, thorax and base of abdomen thickly covered with long pale fuscous hair.

This species looks like *A. lineiventris* Cam., which may be known from it by the lateral angles of the pronotum strongly projecting, by the femora not being broadly black, by the black mark on the base of the abdomen having its apical part narrowed at the base, then broadly dilated laterally, and the second abdominal segment is not strongly reflexed.

The male of *fulvitaris* is similarly colored to the female, except that the coxæ, trochanters and four anterior femora are yellow below; the clypeus wants the black, is longer compared with the width and has the apex roundly incised; the apical joint of the antennæ, its hook and the underside of the penultimate joint below are rufous; the hook is slender and reaches only to the apex of the last joint; the outer edge of the pronotum projects a little—in the female not at all—but not so conspicuously as in *lineiventris*; nor is the apex of the second abdominal segment strongly reflexed as it is in that species. The size and form of the black mark on the clypeus in the female varies.

Odynerus (Ancistrocerus) colon Cresson.

Fedor, May. In what I make out to be this species (described in Trans. Am. Ent. Soc., IV, 241), the lower half of the sides of the metanotum are broadly yellow and covered densely with woolly white pubescence; there is an irregular small spot near the apex of the mesonotum; the apex of the first abdominal segment is slightly, of the second more distinctly turned up; the basal slope of the first segment is triangular, with an irregular, not very distinct crest; there is no spot on the second segment, which is distinctly longer than wide and is not perceptibly narrowed at the base. The clypeus is strongly but not closely punctured and with some longitudinal striæ on the apical half in the middle; its apex is distinctly depressed, clearly separated and transverse at the apex; in length it is slightly but distinctly greater than its greatest width. On the

upper, outer face of the metanotum is an oblique keel. The fuscous pubescence on the head is denser and longer than it is on the thorax. Apical slope of metanotum rather strongly punctured.

***Odynerus edwardsii* sp. nov.**

Black; the clypeus, except for a small conical mark (the narrowed end above), shortly over the middle, a small triangular mark near the base of the mandibles, a small irregular mark, wider than long, over the antennæ, an irregular spot at the outer side of the antennæ, a short line near the top of the outer orbits, a line on the basal third of the pronotum, narrowed in the middle, two broad marks, narrowed on the innerside and divided by a furrow on the scutellum, a broad curved mark on the sides of the metanotum, postscutellum, a large conical mark on the mesopleuræ below the tegulæ, a minute one below it, the sides of the first abdominal segment, its apex more narrowly, the black central mark at the apex projecting laterally, the lateral projections shorter than the central part and slightly narrowed outwardly, the basal fourth of the second segment, its apex in the centre projecting, uniting it with a broader, more irregular transverse band which does not extend to the sides, narrower bands on the base of the third and fourth, narrowed slightly at the sides, a band on the fifth broadly dilated on the outer third; the sixth, except for a broad, oval spot on the apical third, the second ventral, except narrowly at the base, and for an oblique line projecting from its sides, straight on the inner, rounded on the outer in the centre, the sides broadly roundly dilated, the apices of the fourth and fifth broadly, deeply in the centre, narrowly laterally, lemon-yellow. Legs yellow, the base and upper sides of the fourth anterior coxæ, their trochanters, the fore femora broadly, the middle more narrowly at the base, both more broadly above than below, the hind coxæ, trochanters, basal three-fourths of their femora black; the tarsi tinged with fulvous; the hind coxæ with a short thick tooth in the middle behind; the four hinder tibiæ marked with black on the innerside behind. Underside of antennal scape yellow. Wings hyaline, tinged with fulvous, the stigma testaceous. ♀. Total length 8 mm.

Head and thorax densely covered with long fuscous hair. Clypeus as wide as long, the sides and apex narrowly black, the latter narrowly depressed, transverse. Base of thorax transverse, the sides not projecting. Head not much wider than thorax. Apex of postscutellum transverse. Base of first abdominal segment without a distinct keel, but still margined; the second shorter than it is wide at the apex, which is flat. The sides of the metanotum are indistinctly keeled above.

Mountains near Claremont, California (Baker).

Is not unlike *A. rivularis* Cam. and *fulvitaris* Cam. in coloration, but is smaller than the latter, which has not the apex of the black band on first abdominal segment dilated laterally, and the clypeus has broad lateral marks; *rivularis* has only a small square mark at the end of the black on the first abdominal segment; this is also the case with *fulvitaris*, which has also broad side-marks on the clypeus, and the base and apex of the mark on the second are not united by a pedicle.

Odynerus (Ancistrocerus) arizonaensis sp. nov.

Black, densely covered with white pubescence, which gives it a grayish appearance; the underside of the antennal scape, two large oblique marks, twice longer than wide, on the top of the clypeus, a small mark twice longer than wide over the antennæ, a longish triangular mark on the base of the mandibles, a small mark behind the top of the eyes, two irregular marks on the apex of the pronotum, a round mark on the apex of the mesonotum in the centre, a smaller one on the sides, postscutellum, a large broad line on the sides of the metanotum, a largish mark on the pleuræ below the tegulæ; a large, oblique mark on the sides of the first abdominal segment, a large, irregular, longer than broad, counting transversely, mark on the sides of the second segment, broad lines, that on the first narrowed on the sides, on the first and second and narrow ones on the other segments, yellow. The apices of the four anterior femora narrowly, the base of the anterior tibiæ narrowly, its apex still more narrowly, and the four posterior tibiæ behind to near the apex, pale yellow. Wings hyaline, the apex of the costal and the greater part of the radial cellules smoky. ♀. Length to end of second segment 8 mm.

The punctuation is strong and close; on the clypeus the punctures are sparser, and especially above weaker. Clypeus as wide as long; its apex depressed, slightly roundly incised, the thickened sides forming almost teeth. Thorax longish, narrowed towards the apex. The postscutellum forms a raised transverse ridge at the base; its apex is broadly rounded. Sides of metanotum broadly rounded. First abdominal segment longish cup-shaped; its apex is only very slightly raised; the second is not much longer than wide, hardly narrowed at the base; its apex depressed, strongly reflexed; the basal crest is not prominent. Tegulæ yellow, black in the middle.

Oslar: Congress, Arizona.

Has the coloration of *colon*, but with the yellow paler; it is smaller, has the postscutellum more distinctly raised at the base and narrower, has the pubescence denser and paler; the apex of the clypeus is not transverse, and the second abdominal segment is strongly reflexed.

Ancistrocerus pelias sp. nov.

Black; the base and underside of antennal scape, the clypeus, mandibles, a line, not much narrowed below, three times longer than wide, above the antennæ on the front, the eye incision, the upper part shorter and wider than the lower, a broad line, narrowed below, on the upper half of the outer orbits, the pronotum to beyond the middle, tegulæ, a spot behind, a mark, somewhat oval in shape, on the apex of the mesonotum, a small spot on the sides of the scutellum in the middle, postscutellum, the sides of the metanotum broadly, the mark extending on to the pleuræ, a large squarish mark on the mesopleuræ above, a longer, narrower, more oblique one immediately below it, a line on the apex of the first abdominal segment, narrowed laterally and having attached to its sides a large oblique mark, somewhat more than one-third of the width of the segment, and extending along the edge of the top of the apical slope, a broad transverse line across the middle, reaching close to the middle and becoming narrowed on the innerside and united to a broad apical border laterally; the apices of the

following three segments broadly, the second ventral segment, except for a large black mark in the centre, this mark being broad at the base and apex, obliquely narrowed from both ends towards the middle and the other segments, bright sulphur-yellow. Legs sulphur-yellow, the coxæ behind, trochanters and basal two-thirds of the hind coxæ black. ♀. Length (total) 7 mm.

Clypeus pyriform, broadly rounded above, the apex with a distinct semi-circular incision; it is strongly, moderately closely punctured. Front and vertex closely, rugosely punctured, the pro- and mesothorax being more strongly punctured. Base of thorax transverse, the sides not projecting. Base of postscutellum rounded, its apex transverse. Median segment strongly aciculated; the sides rounded, coarsely punctured; the large, black central mark is roundly dilated on the sides, the top narrowed, with straight sides. First abdominal segment cup-shaped, with a short, but distinct pedicle at the base, strongly punctured, especially towards the apex; the second is as wide as long, weakly punctured, except at the apex, where the punctuation is much stronger; the other segments are aciculated, punctured distinctly at the apex. Antennæ stout, the apical joints brownish.

Ormsby Co., Nevada.

What is perhaps the male of this species has the second ventral segment black, except at the apex; the yellow mark on front is much wider above, it becoming gradually wider from the bottom to the top, forming a triangle; the clypeus is broader compared with the length and has an apical incision as long as it is wide at the apex. *A. pelias* comes close to *A. spilogaster*, which may be known from it by the projecting sides of the pronotum, by the absence of the broad yellow marks on the metanotum, by the two spots on the second abdominal segment being enclosed in the black, and by the densely haired body. *A. lineativentris* has also the body densely haired, the clypeus broadly black in the middle, and the metanotum not yellow laterally.

The group of *fundatus* Cress.

The line on first abdominal segment dilated laterally, the second with an enclosed yellow spot, the legs for the greater part red, mixed with yellow.

***Ancistrocerus fundatus* Cress.**

This species has been taken at Fedor and Lee Co., Texas.

***Ancistrocerus ventones* sp. nov.**

Black; a longish mark, dilated above, narrowed on the lower half, touching the yellow on the clypeus, a mark on the inner eye orbit, basal half of mandibles, a short line on the outer orbits, two large marks, widest on the innerside and not reaching to the middle, a small mark in the centre of the mesonotum,

postscutellum, an oval mark on the sides of the metanotum at the base, a mark, longer than it is wide, at the top, transverse above, rounded below, on the base of the mesopleuræ above, a broad line on the apex of the first abdominal segment, with a large mark, oblique and narrowed towards its base, issuing from its sides, an irregular oval mark near the middle of the second segment, its apex more broadly and regularly than the first, the line extending below; two large oval marks on the second ventral, and a line on the middle of the fourth and fifth dorsal, yellow. Legs rufo-fulvous, the coxæ and trochanters black; the apex of four anterior femora and the tibiæ in front yellow. Wings hyaline, tinged with fuscous, highly iridescent, the stigma and nervures black. ♂. Length (total) 6 mm.

Head strongly, deeply, but not closely punctured; the clypeus strongly but more sparsely punctured; it is not much longer than its greatest width; its apex depressed, ending in two stout teeth. Thorax strongly, closely punctured, except at the base of the metapleuræ, where it is aciculated; its base transverse, with the sides angled. Apex of postscutellum broadly rounded; the sides of metanotum somewhat narrow, almost margined above, below armed with a longish, narrow, oblique spine. Apex of first abdominal segment slightly, the apex of second distinctly reflexed; the second is clearly longer than it is wide at the apex; it has there a row of longish foveæ. Flagellum of antennæ brownish below; the hook does not extend much beyond the base of the last joint.

Fedor, Texas; February.

Characteristic of this little species are the two large ovalish marks on the second ventral abdominal segment. Otherwise it looks like a small example of *O. vegasensis* Cam.; that species has the body more densely and distinct pruinose, the apex of postscutellum is dilated in the middle, and the sides of the metanotum are broadly yellow. *O. toas* Cress. agrees closely in coloration.

Ancistrocerus antheus sp. nov.

Black; the clypeus, mandibles, except the teeth, a line on the lower part of the eye incision, dilated above, a mark, gradually narrowed below, above the antennæ, a short line on the outer orbits, two large marks, roundly narrowed behind; on the pronotum, postscutellum, broad lines, the first slightly dilated before the end, which is narrowed, on all the abdominal segments, the lines on the second and third all round, an irregular mark near base of second, almost the apical half of the fore femora, the apical third of the middle, the apex of posterior narrowly and the tibiæ and tarsi, bright sulphur-yellow. Tegulæ large, yellow, with a fuscous spot; there is an irregular yellow mark on the pleuræ below them. Wings hyaline, highly iridescent, the stigma dark fuscous, the nervures black. ♂. Total length 5 mm.

Clypeus slightly longer than wide, broadly rounded above; the apical teeth triangular, the incision becomes gradually widened from the top to the bottom, forming a triangle; the punctuation is strong, but not close. Front and vertex strongly, closely punctured, as is also the thorax, but more strongly. Base of thorax transverse, the sides not projecting. There are two short wide depressions on the apex of mesonotum, a narrow but distinct furrow down the apical

two-thirds of the mesonotum, and there is an irregular one below the middle of mesopleuræ. The yellow on the postscutellum is obliquely narrowed at the base, the middle there is slightly incised. Metanotum above strongly punctured; the lower part and the pleuræ strongly aciculated; the sides are rounded. Abdomen, except the basal slope, closely, strongly punctured; the apices of the first and second more strongly punctured, but not reflexed. The antennæ are stout, become thicker towards the apex, have the scape yellow below, the apical two joints below and the hook brownish; the hook reaches close to the base of the penultimate joint. The second abdominal segment is slightly, but distinctly longer than it is wide at the apex.

Ormsby Co., Nevada.

Comes near to *A. ormsbyensis* Cam. and *A. gunnisonensis* Cam., both of which may be separated from it by the head and thorax being densely covered with fuscous hair and by the second segment not having two yellow spots.

Ancistrocerus satyrus sp. nov.

The punctuation is as in *antheus*; the incision on the clypeus is rounded, not gradually narrowed; the striation on the metanotum is stronger, more regular and oblique; the marks on the second abdominal segment are broader and distinctly narrowed at the base, the segment itself being shorter compared with the width. All the coxæ are yellow below; the mark below the tegulæ is longer than wide, rounded and narrowed at the top and bottom; the frontal mark is large, the narrowed lower part is clearly separated and is shorter than the dilated upper; there is a furrow down the middle of the scutellum and a wide, irregular oblique one on the base of mesopleuræ below the middle. Total length 6 mm.

Ormsby Co., Nevada.

This species is very like *A. antheus*, having the same bright sulphur-yellow marks; the two may be separated as follows:

The four anterior femora broadly black at the base, the yellow on postscutellum obliquely narrowed laterally at the base, the middle not transverse, slightly incised; the line on basal abdominal segment not distinctly dilated laterally..... **antheus.**

The anterior femora narrowly black at the base, the middle without black; the yellow on postscutellum broadly rounded at the base; the line on second segment broadly dilated laterally..... **satyrus.**

Ancistrocerus tityrus sp. nov.

Black; a line or three spots on the top of the clypeus, a small spot over the antennæ, an obscure one in the eye orbits, the underside of the antennal scape, a short line near the top of the outer orbits, two broad marks on the pronotum, postscutellum, a large mark on the sides of the base of metanotum, a broad conical mark on the pleuræ below the tegulæ, a line, dilated laterally on the apex of the first abdominal segment, a similar line, extending on to the ventral surface, on the second, a broad, conical mark—the transverse end at the base—near the base of the second and narrower lines on the third to fifth segments, yellow.

Legs black, the apex of the four anterior femora, all the tibiæ except at the apex yellow, the anterior tarsi rufous, or tinged with rufous. Wings hyaline, the radial cellule fuscous-violaceous, the stigma and nervures black. ♀. Total length 7 mm.

Clypeus as long as wide, aciculated, with clearly separated, longish punctures; the apex projecting, smooth, shining, depressed, not quite transverse. Front and vertex closely, rugosely punctured. Base of thorax transverse, the angles not projecting. Apex of postscutellum broadly, roundly narrowed, the yellow part almost transverse. Metanotum irregularly reticulated above; the centre aciculated-striated, the sides narrowly rounded. Metapleuræ strongly aciculated-striated, the rest strongly punctured. Basal slope of first abdominal segment aciculated, weakly, sparsely punctured, the rest strongly punctured; the apex not reflexed. The second segment is closely, finely punctured, more strongly towards the apex, which is not reflexed. Tegulæ yellow, a fuscous spot at the base.

Ormsby Co., Nevada, July 6th.

Allied to *pedestris* Sauss. It is smaller, has the yellow much brighter, more lemon in tint, the thorax shorter compared with the width, as is also the second abdominal segment; the yellow marks on the metanotum are much larger and the apex of tibiæ and tarsi are black, not yellow.

Ancistrocerus pedestris Sauss.

A male from Fedor, Texas. It is nearly related to *ventones* Cam., described in this paper; it may be known by the apex of femora, tibiæ and tarsi being yellow, by the clypeus being much more strongly punctured, by the line on the first abdominal segment not being so strongly dilated laterally, by the mark on the second segment being nearer the base, and by the second segment being longer compared with the width—in *ventones* it is not much longer than wide, in *pedestris* very clearly longer than it is wide at the apex—and the sides of the pronotum are not spinose as in *ventones*. In the ♂ of what I regard as *pedestris*, there is a small yellow mark on the sides of the metanotum at the base, and the yellow on the lower edges of the latter is obscure. In a specimen (♂) from Lee Co., Texas, the lateral metanotal spots are absent; on the other hand, there are two small yellow spots on the lower surface of the second abdominal segment. In both the apex of the second segment is strongly reflexed.

The group of *anormis* Sauss.

Small species, the yellow pale, the yellow line on the first abdominal segment usually dilated laterally, the second segment with an enclosed yellow spot.

A. ormsbyensis Cam., *A. gunnistonensis* and *A. trichionotus* Cam. agree with this group, except that the second abdominal segment has no yellow spot, and that the body is more densely haired.

***Odynerus anormis* Say sec. Sauss.**

What may be this species is represented by two males. They agree fairly well with the descriptions, but differ or show variation in the coloration, *e. g.* one has the two yellow spots on the second ventral segment, shown in Saussure's figure (Pl. XIV, f. 1). They are only 7 mm., while Saussure gives 11 mm. as the length of *anormis*; that length, however, probably refers to the ♀. In a specimen from Colorado the yellow lateral line on the metanotum is much broader, longer and more distinct than it is on one from Texas (Fedor). The top of the first abdominal segment is rougher than it is in *Odynerus* proper.

The group of *fulvipes* Cress.

The first abdominal segment with a free oblique lateral spot; the second with a free spot; the legs for the greater part fulvous.

Differs from the *fundatus* section in the spot on the basal abdominal segment being elongated and not joined to the apical line.

***Odynerus austrius* Cress.**

Taken in Lee Co., Texas, in June.

To this group may be referred *arizonensis* Cam.

***Odynerus (Ancistrocerus) fulvipes* Cress.**

Black; a curved line on the top of the clypeus, a small irregular mark over the antennæ, one of the same size in the eye incision, a triangular mark on the base of the mandibles, a short line behind the eyes, underside of antennal scape, a small spot behind the tegulæ, a larger one, longer than broad, in the centre of the mesonotum at the apex, postscutellum, a broad line on the apical two-thirds of the sides of metanotum, an irregularly oval mark on the pleuræ below; above, the centre and apex with the punctures larger and confluent; the apex depressed, transverse. Front and vertex closely and strongly punctured. Thorax strongly punctured; the base transverse, the edges slightly projecting. Apex of postscutellum broadly rounded. Sides of median segment with a distinct margin; the lower edge stoutly bidentate. First abdominal segment longer than it is wide at the apex, which is very slightly reflexed; the second segment is clearly longer than it is wide at the apex; its apex is more distinctly reflexed. The band on the second segment does not extend all round below.

The male has the clypeus yellow; its apex depressed and transverse in the middle, the sides projecting into stout teeth; the sides of the metanotum want the yellow lines and the apices of the first and second abdominal segments are more strongly reflexed. The terminal antennal hook is narrow, black and ex-

tends beyond the apex of the penultimate joint. The mark over the antennæ is continued as a line below, and the lower part of the eye incision is lined with yellow. The tegulæ in both sexes are for the greater part rufo-fulvous.

I, at first, thought that this species might be *O. colon* Cress., but that species, according to Mr. Cresson's Catalogue (Cat. of the Des. Hym. of N. Am. North of Mexico, p. 288), is an *Odynerus* sensu str.; it has also a spot on the side of the second abdominal segment, and the ♂ has the clypeus "deeply notched at apex" which is certainly not the case with my species.

***Odynerus (Ancistrocerus) philetas* sp. nov.**

This species comes near to *O. fundatus* Cress., which also occurs at Fedor. The two may be separated thus:

- Legs dark ferruginous, black at the base; the oblique mark on the first abdominal segment small, not extending to the middle of the segment; the mark on the second abdominal segment small..... ***fundatus*.**
- Legs black, the apex of femora, tibiæ and tarsi bright lemon-yellow; the oblique mark on the first segment large, wide, extending to the middle; the mark on the second segment large..... ***philetas*.**

Total length 10 mm. ♀. Black; a curved mark on the top of the clypeus, a small mark, dilated above, over the antennæ on the front, one in the eye incision, a narrow line on the base of mandibles, a short line behind the eyes, two large marks on the base of thorax on the outer edge, a small square mark on the apex of mesonotum, postscutellum, the sides of metanotum broadly, the mark extending on to the pleuræ, a large mark, widest above, on the base of mesopleuræ above; a line on the apex of the first abdominal segment, largely, obliquely dilated at the sides to the middle of the segment, where it is obliquely narrowed; a large, oval, transverse mark on the sides of the second near the base, a broad line on the apex of the second and narrower ones on the apices of the following three, lemon-yellow; the apex of the femora (the posterior only narrowly) and the tibiæ of a brighter yellow color; the tarsi rufous, as also the apex of the tibiæ narrowly. Antennæ black, the scape yellow below. Wings hyaline, slightly tinged with fulvous, the apex fuscous-violaceous.

Clypeus longer than wide, the punctures longish, clearly separated, the apex transverse. Front and vertex closely, rugosely punctured. Prothorax and mesothorax closely, rugosely punctured. Metanotum rugosely punctured above, the rest closely, obliquely striated, its sides rounded. Base of metapleuræ almost smooth, the rest closely, finely punctured. Apex of first abdominal segment slightly raised; the basal slope weakly punctured, compared with the rest; the two parts not very clearly separated. The second segment is clearly longer than it is wide at the apex, where it is more strongly punctured and has a coarsely crenulated furrow behind the raised apex. The apical segments are closely punctured.

Fedor, Texas.

Ancistrocerus leensis sp. nov.

Black; underside of antennal scape, clypeus, mandibles, except the lower edge, a mark between the antennæ, commencing at the clypeus, longish, roundly dilated above, an irregular mark in the eye incision, a short line near the top behind the eyes, the base of the pronotum to near the middle, a small spot on the mesonotum in the middle near the apex, postscutellum, a large pyriform mark below the tegulæ, the apex of the first abdominal segment, an oblique line running from its outside towards the middle of the segment, the two reaching close to the middle, an irregular spot on the sides of the second segment near the base, the apex broadly almost all round and a narrow line in the centre of the fourth, bright lemon-yellow. Coxæ and trochanters black, the femora fulvous, the tibiæ and tarsi yellow. Wings hyaline, the radial cellule smoky; the costa, stigma and nervures black. ♂. Length (total) 8 mm.

Lower part of clypeus distinctly longer than wide; the apex with an incision as long as it is wide; the punctuation is strong, sparse. Front and vertex strongly closely punctured; the head, as is also the thorax, thickly covered with pale pubescence. Base of thorax not quite transverse, the centre slightly curved inwardly; the lateral angles blunt. Postscutellum rounded at base and apex. Sides of metanotum broadly rounded, strongly punctured; almost reticulated; the centre is not so rugosely, coarsely punctured as the sides. Metapleuræ more weakly and sparsely punctured than the rest. First abdominal segment much more coarsely punctured than the second, the apex with a band of larger punctures, the basal slope more irregularly and weakly punctured, the extreme apex slightly raised. The second segment is clearly longer than wide, closely, but not strongly punctured; its apex much more strongly punctured and more distinctly reflexed than the first. Underside of flagellum and hook black.

Lee County, Texas.

This is a smaller and more slenderly built species than either *austrinus* or *fulvipes*, with which it agrees in having two oblique lines on the base of abdomen; the sides of the metanotum are much more broadly rounded, not at all angled and the femora only are fulvous.

Ancistrocerus rivularis sp. nov.

Black; clypeus, mandibles, a triangular small spot over the antennæ, a short, narrow line on the top behind the eyes, antennal scape except on top, a broad line, narrowed in the middle, on the base of the thorax, tegulæ, a broad band on base of postscutellum, a band on the upper three-fourths of the metanotum on the sides, broad above, narrowed below, the lower part produced on the inner-side, a large mark, longer than wide, transverse above, rounded below, on the pleuræ below the tegulæ, sulphur-yellow; the abdomen sulphur-yellow, with the following black markings: the basal slope of the first abdominal segment, from the centre of this, runs to shortly beyond the middle, a line, clearly longer than wide, broadly rounded at the apex, from which runs a short narrow point, a broad line on the base of the second segment; it becoming gradually narrowed towards the apex, to which is attached a narrower and shorter transverse mark, the sides of which become gradually narrowed to a point; broad bands, extending slightly beyond the middle, on the base of the following three segments, a

narrower three-waved band on the fourth, the fifth to shortly beyond the middle, a narrow line round its sides and apex; the ventral surface with the following black markings: the first segment, except for a triangular mark on the sides at the apex, an irregular narrow line, narrowed to a sharp point at the apex, on the centre of the basal two-thirds of the second, lines on the following three, roundly dilated at the sides, and the whole of the last. Legs colored like the body, but paler, the four anterior behind to beyond the middle of the femora and the hinder all round to near the apex of the femora. Wings hyaline, the base suffused with fulvous, the apex with violaceous, the costa and stigma fulvous. ♂. Length 7 mm. to end of second segment.

Head and thorax strongly, closely punctured, thickly covered with dark fuscous hair. Clypeus clearly longer than wide, sparsely, strongly punctured; its apex with a shallow rounded incision. Base of thorax transverse, the sides not transverse. Apex of metanotum irregularly transversely striated; the sides at the top project into a clearly separated (especially at the base) testaceous tooth; they are irregularly margined on upper half. First abdominal segment cup-shaped, sparsely, but distinctly punctured; the second is almost square, not much narrowed at the base; the basal half finely, the apical coarsely punctured, its apex only very slightly reflexed; the other segments are strongly punctured, especially at the apex.

Three Rivers, California.

This species has the abdominal markings pretty much as in *A. durangoensis*, which may be known from it by the sides of the pronotum projecting, by the strongly reflexed apices of the second and third abdominal segments, and by there being a broad lateral mark on the sides of the second ventral, on which there is no central line.

***Ancistrocerus durangoensis* sp. nov.**

Black; the clypeus, mandibles, except the teeth, a small mark over the antennæ, broad and rounded above, obliquely narrowed below, a short narrow line on the outer orbits above, underside of antennal scape, a line, narrowed in the centre, on the base of pronotum, tegulæ, a small oval mark on the sides below them, two marks on the apical half of the scutellum, rounded at the base, transverse at the apex, the apical half of postscutellum and the greater part of the abdomen, bright sulphur-yellow; the following parts of the abdomen are black: the basal slope, the black produced in the centre at the apex, into a point of equal width and slightly broader than long, its apex transverse, not reaching to the centre of the yellow apical part, the basal fourth of second segment, the band widened laterally; attached to it is a slightly narrower band which does not reach the sides, the short pedicle by which it is attached to the basal band, being as wide as its lateral projections, there are waved basal bands on the third to fifth, and the apical is entirely black; the first ventral segment is black, except for a transverse yellow line near the apex; there is a narrow tripartate line—the central projection much smaller and more sharply pointed than the lateral—on the base of the second; from its sides projects a stout oblique mark, rounded and slightly narrowed at the apex; the following segments two are black at the base, the last is entirely black. Legs of a paler yellow than the body; the greater

part of the anterior coxæ, the four posterior behind, the basal half of the four anterior femora and the posterior entirely to shortly beyond the middle, black. Flagellum brownish below. Wings hyaline, suffused with fulvous on the basal half, the apex smoky violaceous; the costa and stigma fulvous. ♂. Length to end of second abdominal segment 8 mm.

Head and thorax densely covered with long fuscous pubescence; the abdomen with shorter pubescence. Clypeus pyriform, clearly longer than broad, its apex with a rounded, wider than long incision; the puncturation is strong, but not close; on the front and vertex it is strong and close, as it is also on the pro- and mesothorax. There is a smooth distinct furrow down the centre of the scutellum. Apex of postscutellum broadly rounded. There is a smooth, longer than it is wide at the base, triangular area at the base of the metanotum; the upper lateral angles are bordered by a distinctly raised and defined border, which below, in the middle of the metanotum, projects into a stout triangular tooth, the upper part shorter than the lower. First abdominal segment cup-shaped, broadly rounded at the base, the apex with a smooth raised border, which is bordered behind by a line of deep foveæ; the second is as long as it is wide, roundly narrowed at the base, its apex stoutly reflexed, as is also the case with the third; the puncturation is strong and close. Antennal hook rufous, not extending much beyond the base of the tenth joint. Base of thorax transverse, the sides shortly but distinctly projecting.

Durango, Colorado, May (Oslar).

Belongs to the group of *sulphureus* Sauss.

***Ancistrocerus truncatus* sp. nov.**

Black; a broad line on the top of the clypeus, a small mark, longer than wide, transverse above and below above the antennæ, an irregular mark on the inner corner of the eye incision, a short narrow line on the base of mandibles, a longer, broader one behind the top of the eyes, a large triangular mark on the sides of the pronotum at the apex, a small squarish mark in the middle of the mesonotum at the apex, a conical mark on the sides below the tegulæ, postscutellum, the outer edges of the metanotum broadly, lines on the apices of the abdominal segments, a broad oblique mark on the outer edge of the first, joining the apical band and a large, transversely oval mark on the sides of the second, pale yellow. Legs black; the apical half of the four front femora from near the middle behind and more narrowly in front, the posterior at the extreme apex and the tibiæ and tarsi yellow; the tarsi suffused with fulvous. Wings hyaline, iridescent, the radial cellule violaceous, the nervures and stigma black. ♀. Length 9 mm.

Head and thorax closely, distinctly punctured, the metapleuræ smooth at the base, the rest closely, obliquely striated. Clypeus longer than it is wide, its apex transverse. Base of thorax transverse, the sides not projecting. Apex of postscutellum rounded. Sides of metanotum rounded, not margined. The second abdominal segment square, its apex smooth, slightly raised. The pubescence is short and sparse, the underside of the scape yellow.

Berkeley, Colorado, June (Oslar).

There is an example of what is probably the ♂ from Las Vegas, New Mexico. It has the clypeus yellow, transverse at the apex;

the mark over the antennæ is longer and dilated above; except that there is no yellow spot on the mesonotum and two on the underside of the second abdominal segment, the markings are as in the ♀; but the yellow line on the lower side of the eye orbits goes all round it. Clypeus pyriform, longer than wide, its apex transverse. Underside of flagellum brown; the hook of a darker brown color; it reaches to the middle of the penultimate joint. The basal half of the second femora is hollowed slightly and roundly dilated behind. The yellow marks on the pronotum are of equal width, square, not triangular as in the ♀; the black on the femora is less developed; the oblique mark on the first abdominal segment is more narrowed on the innerside and the mark on the second is larger and more regularly oval.

Related closely to *A. philetas* Cam., from Texas, which may be known from it by the second abdominal segment being distinctly longer than wide; while in *truncatus* it is fully wider than long, the mark on the pronotum on the latter is triangular in *philetas*, not much narrowed on the outside, the line on the clypeus is much narrower; the clypeus itself, too, being broader compared with the length; also the black on the femora is longer.

***Ancistrocerus ormsbyensis* n. sp.**

The ♂ of this species was described in "Invert. Pacif.," i, 120. The ♀ has been taken at Gunnison, Col. Like the ♂ it is densely pilose; it has the clypeus yellow, with a broad black mark in the centre of the upper two thirds; the upper two-thirds of the clypeus is of equal width, the lower is gradually narrowed to a point; it is slightly longer than its greatest width; it is sparsely longitudinally punctured; its apex is black and transverse. The basal five segments of the abdomen have moderately broad yellow bands of equal width; the four front femora are more broadly black than in the ♀. As in the ♂, the wings are largely tinged with fulvous. There is a ♂ from Denver, Col., which has the black lines on the four anterior femora shorter than in the type.

***Ancistrocerus lecontei* sp. nov.**

Black; the head, thorax and base of abdomen densely covered with long dark pubescence; two broad curved marks on the top of the clypeus, two much smaller marks, transverse on the outer, rounded on the inner side, above the apex, a small transverse mark over the antennæ, a small spot behind the top of the eyes, a line on the pronotum, narrow in the middle, broadly dilated laterally, an

oblique conical spot below the tegulæ, apex of tegulæ (their base fuscous), two irregular transverse conical marks on the scutellum and the apices of the basal five abdominal segments and the apices of the second to fourth ventral, bright lemon-yellow. Tibiæ yellow, the apex of the tarsi dark testaceous. Wings almost hyaline, smoky along the fore margin; the stigma testaceous, the nervures black. ♀. Total length 12 mm.

Clypeus as broad as long, sparsely, distinctly punctured, the apex transverse, depressed. Base of thorax not quite transverse, the apex distinctly keeled on the sides, the oblique lower part with the keels stouter than on the upper part. Thorax somewhat more than twice longer than wide, flat above, the parapsidal furrows reaching from the base to the apex. Basal slope of first abdominal segment triangular, clearly separated above, aciculated; the apex distinctly punctured; the second is much less strongly punctured; it is distinctly longer than wide and has the apex flat. Apex of postscutellum transverse.

Ormsby Co., Nevada, July (Baker); Berkeley and Golden, Colorado, August.

What appears to be the ♂ (from Berkeley) has the clypeus, labrum and tarsi lemon-yellow, the coloration otherwise being as in the ♀; except that the flagellum is brownish below; its hook is stout, brownish and hardly projects over the base of the joint. Clypeus not much longer than wide, more closely punctured than in the ♀; its apex has a semicircular incision. The parapsidal furrows are not so deep as in the ♀.

Comes close to *A. capra* Sauss.

***Ancistrocerus lindemanni* sp. nov.**

Black; the clypeus, base of mandibles, eye incision, a longish mark, broad above, gradually narrowed below, where it is one-third of the width of the top, a short narrow line on the upper part of the eye orbits, a line on the base of thorax, a small, irregular, wider than long, mark in the centre of the mesonotum at the apex, postscutellum, a wide conical mark below the tegulæ, lines on the apices of all the abdominal segments and an irregular spot on the sides of the second segment at the base, yellow. Legs pale yellow, the four anterior coxæ, trochanters and femora and the posterior entirely, black. Wings hyaline, the radial cellule clouded, the stigma fuscous, the nervures black. ♂. Length 5 mm.

Clypeus pyriform, clearly longer than wide, the apex with a wider than long incision; it is sparsely, strongly punctured. Base of thorax transverse, the lateral angles not projecting; its apex with blunt sides; the top of the metanotum irregularly reticulated, the rest closely, finely striated; metapleuræ above sparsely punctured, the rest aciculated. Base of first abdominal segment triangular, smooth; the apex strongly but not closely punctured; the second segment is slightly longer than wide, weakly, sparsely punctured at the base, more strongly towards the apex, which is reflexed. Antennal scape yellow below; the apex below and the hook brownish; the latter does not quite reach to the apex of the last joint.

Lee County, Texas.

***Ancistrocerus cockerelli* sp. nov.**

Black; a longish triangular mark over the antennæ, a line on the lower part of the eye incision, a mark, longer than wide, of equal width, in the centre of the apex of clypeus, the sides of it prolonged along the teeth, the apex therefore incised, a longish wide line on the upper part of the outer orbits, a broad line, narrowed in the middle, on the base of thorax, tegulæ, basal half of post-scutellum, a triangular mark on the upper half of the sides of metanotum, an oblique conical mark below the tegulæ, a line on the apex of first abdominal segment, broadly dilated laterally to the top of basal slope, an oblique conical spot—the narrowed end on the innerside—on the sides of second segment, the apex of the latter broadly, narrowed in the middle, narrow lines on the centre of the second and third segments, and a line gradually narrowed inwardly, on the sides of the second ventral segment, pale yellow. Wings iridescent, slightly infuscated, the nervures and stigma black. ♀. Length 5 mm.

Clypeus as broad as long, the apex transverse in the middle, the sides forming blunt teeth. Apex of mandibles rufous. Underside of flagellum brown. Base of thorax not quite transverse, the middle being slightly dilated, the sides of the apex bordered by a distinct keel, the upper part of the keel broadly rounded; except at the sides of the upper half, the apex is finely, closely transversely striated. There are two broad longitudinal furrows on the apical half of the mesonotum, a deeper one on the apical half of the scutellum, which has two obscure yellow marks on the apex. The first and second abdominal segments are strongly punctured at the apex, which is not reflexed, but slightly thickened; the second is square.

Ormsby County, Nevada; July (Baker). A longish, narrowish insect.

***Ancistrocerus bakerianus* sp. nov.**

Black; the clypeus, an irregular spot on the eye incision, an interrupted line, gradually, obliquely dilated from the inner to the outside, two irregular spots on the apex of the scutellum, a conical pleural spot, a line on the apex of the first abdominal segment, roundly dilated in the middle, a line on the apex of the second, broadly dilated backwards on the sides and continued along the outer-edge of the ventral surface, and a line on the underside of the antennal scape, pale yellow; the legs black, the tibiæ obscure yellow in front; the underside of the flagellum, with the hook, reddish brown. Wings hyaline, the nervures and stigma black. ♂. Length 4 mm.

Clypeus distinctly wider than long, the apex with a broad roundly curved incision. Base of thorax transverse, the sides not projecting. The sides of the metathorax are roundly curved from the base to the apex. Upper half of metapleuræ with strong, clearly separated punctures, the lower smooth. Second abdominal segment as long as it is wide at the apex, which has a crenulated furrow in the middle. Antennal hook stout, reaching to the base of the eleventh joint, which is distinctly longer than the tenth. The trophi are longer and stouter than usual.

Ormsby County, Nevada; July.

Ancistrocerus sayi sp. nov.

Black; the clypeus, a mark filling the eye incision, narrowed below, a longish mark over the antennæ, the top transverse, the upper two-thirds becoming gradually narrowed below, the narrowed lower part twice longer than wide, a line on the top of the outer orbits, mandibles except at apex, a interrupted line, gradually widened on the outerside, on the base of the thorax, two irregular marks on the scutellums, those on the postscutellum almost continuous, a large conical spot below the tegulæ, a line, with an irregular basal edge on the first abdominal segment, one obliquely dilated laterally on the second, a longish line gradually narrowed on the innerside, on the sides of the second ventral and an oblique spot, twice longer than wide, near the middle of the second, the apex of the femora and the greater part of the tibiæ, whitish-yellow. Wings hyaline, the nervures and stigma black, the second recurrent nervure interstitial; the wings are tinged with violaceous. Underside of antennal scape whitish-yellow. of the flagellum brown; the hook short, half the length of the joint. ♂ Length 5 mm.

Clypeus wider than long, the puncturation strong, but not close, the incision semicircular. Base of thorax transverse; the sides of the apex rough, rounded, the lower edge projecting into stout triangular teeth. The first abdominal segment longer than it is wide at the apex; it becomes gradually widened from the base to the apex; the second is longer than it is wide at the apex, the base narrowed, the apex flat. The apex of the first is more coarsely punctured than the rest, and has a short, wide, longitudinal furrow down the centre.

A slender, longish species.

Ancistrocerus gunnisonensis Cam.

There is a ♂ of this species from Denver, Colorado, and another from Durango, Colorado. The amount of rufous color on the underside of the antennæ varies, as does also the size of the yellow frontal mark. A ♂ from Chimney Gulch, Colorado, has the wings tinged distinctly with fulvous.

Ancistrocerus trichionotus Cam.

Invert. Pacifica, i, 120.

The ♂ only of this species has been described. The ♀ has been sent by Prof. Baker from Ormsby Co., Nevada, and from Berkeley and San Miguel Co., Colorado. The underside of the antennal scape is bright sulphur-yellow, the flagellum brownish at the apex below. Clypeus as long as wide, strongly but not closely punctured, pyriform, the apex not quite transverse, being slightly incurved; on either side of it is a broad curved mark, narrower above than below and reaching below to the middle; above the narrowed apex are two small irregular marks. The pubescence on the head, thorax and base of abdomen is long, dark fuscous and dense. The metanotum above has, on either side, a curved, not very strong keel.

Ancistrocerus fulvicarpus sp. nov.

Black; the clypeus except for a pyriform black mark in the centre of the upper half, it being narrow above, becoming gradually obliquely narrowed to the apex, which is broad and rounded, a small mark, widened in the middle, over the antennæ, a narrow, longish mark on the base of the mandibles, a small mark, longer than wide, at the eyes, opposite the antennæ, a short line on the top of the upper orbits, the basal half of the pronotum, two large marks narrowed on the innerside, on the apical half of scutellum, postscutellum, the sides of metanotum broadly, the lines dilated on the innerside above, a large, oval mark below the tegulæ, and the greater part of the abdomen, yellow suffused with rufous; the following parts of the abdomen are black: the basal slope of the first segment, this part continued on to the apical half of the apical part; the base of the mark is narrowed, of equal width and is nearly as long as the dilated apex, which becomes gradually wider, the basal third of the second segment, this line having attached to it by a short pedicle a line of the same width, which does not extend to the sides, its outer edges being obliquely narrowed; the third is broadly black at the base, the last at the apex and entirely below; the first ventral is entirely black; the second, except broadly at the apex, the middle of the black being broadly incised. Legs of a more rufous yellow; the coxæ, trochanters, basal half of the four anterior femora and the posterior to near the apex black. Wings hyaline, the base suffused with fulvous, the apex with fuscous violaceous, the costa and stigma fulvous. ♀. Length 11 mm.

Clypeus broadly pyriform, as wide as long, its apex transverse. Head and thorax closely punctured, thickly covered with long fuscous pubescence. Base of thorax transverse, the sides not projecting. Apical half of mesonotum with two distinct furrows. Apex of scutellum with a short, broad, almost smooth line down the centre. Base of postscutellum raised, coarsely rugosely punctured, the apex smooth, broadly rounded. Sides of metanotum with a bordering keel; the upper half rounded, the lower separated from it, through its projecting, the top of the projection rounded and much more prominent than the rest. Centre of metanotum finely, obliquely striated. First abdominal segment cup-shaped, punctured, but not strongly; the second square, more strongly punctured, especially at the apex, which is broadly reflexed, as is also the third. Antennal scape rufous-yellow, black above.

Southwest Colorado; June (Osler).

Ancistrocerus simulator sp. nov.

Black; the clypeus, mandibles broadly at the base, a small transverse oval spot, with a short pedicle below above the antennæ, a small spot at the eyes opposite the antennæ, a short, irregular line on the top of the outer orbits, the base of pronotum, the lateral widened parts semicircular, tegulæ, two transverse marks, narrowed on the innerside, on the base of the scutellum, the basal half of postscutellum, a moderately broad line on the sides of metanotum, its top dilated inwardly distinctly, the lower part much more narrowly, a mark, twice longer than wide, below the tegulæ, its top oblique, the apex rounded, and the greater part of the abdomen, sulphur-yellow; the black basal slope of the first abdominal segment broadly projecting over the slope above, this part incised laterally at the base, the incision shorter than the central part, the black apical projection being about half the width of the central part, the black on the second occupies almost

the basal three-fourths; the apical (and larger) part is narrower and longer than the basal, which extends to the outer edges; at the junction of the two is a longish triangular incision, which becomes gradually narrowed to a fine point on the inner; the third to fifth segments have black lines, dilated near the outside, on the base; the last immaculate; the first ventral is black; the second with a large tripartite mark on the base; the central division is the larger, is triangular, with ragged edges; the lateral are curved, oblique, broadly, roundly dilated in the middle on the outside; the others (except the last, which is entirely black) are black at the base, the bands roundly dilated on the sides. Legs pale sulphur-yellow, the tarsi and apex of tibiæ fulvous; all the coxæ and trochanters, the base of the four anterior femora narrowly and the posterior to near the apex, black. There is a black spot in the centre of the upper three-fourths of the clypeus; it becomes gradually widened to near the bottom, when it again becomes roundly narrowed to a fine point below. Wings fulvous-hyaline, the apex from the first transverse cubital nervure smoky violaceous; the nervures and stigma fulvous. ♀. Length 12 mm.

Head, thorax and base of abdomen densely covered with long fuscous pubescence. Clypeus pyriform, as broad as long, its apex with a shallow incision. Base of thorax transverse, the sides not projecting. Apex of mesonotum with two distinct furrows. Apex of postscutellum transverse, smooth. The sides of metanotum below the middle project into a blunt triangular tooth. First abdominal segment cup-shaped; the second wider than long; the puncturation on the first and second weak; on the apex of the latter it is stronger, and it is still stronger on the others. Underside of antennal scape yellow, of the flagellum brown.

Ormsby Co., Nevada, July (Baker).

Allied to *A. fulvitarsis* and *A. fulvicarpus*; it may be known from both by the wide, clearly separated transverse bar at the end of the black base of the abdomen; the latter may be further known by the second abdominal segment being black, except at the apex; *fulvitarsis* by the clypeus being black, except at the sides above and by the sides of the metanotum being not lined with yellow.

Odynerus (Ancistrocerus) acanthopus sp. nov.

Black; antennal scape below, a broad curved line with its lower sides narrowed and dilated downwards on the top of the clypeus, two small spots in the centre above the apex, an irregular oval mark on the front, a mark in the eye incision, widened above, narrowed below, a mark three times longer than wide on the top of the outer orbits, a longish mark on the base of the mandibles, a broad line on the base of the pronotum, the greater part of the tegulæ, a short oblique line on the mesonotum close to their apex, an irregular mark in the centre of the apex of the mesonotum, postscutellum, a small lateral mark on the base of the metanotum, a broad, irregular mark on the sides of the apical slope, a large irregular mark on the pleuræ below the tegulæ, a small mark on the first abdominal segment on the sides near the basal slope, a band on the apex of the first abdominal segment, widened in the middle and directed backwards at the sides, a large, oblique spot on the sides of the second, nearer the middle than the base, a broad band on the apex of the second and narrower ones on the others, bright

orange-yellow; the apex of the femora, the tibiæ and the tarsi yellow, tinged with fulvous. Wings hyaline, the radial cellule smoky, the stigma dark fulvous, the nervures blackish. ♀. Length to end of second abdominal segment 8 mm.

Hinder coxæ with a distinct, triangular tooth in the centre above. Clypeus strongly but not closely punctured, its apex depressed, almost transverse; it is as long as its greatest width, rounded above. Front and vertex closely almost rugosely punctured. Temples wide. Base of thorax transverse, its sides rounded. Mesonotum without basal furrows. Postscutellum prominent, rugosely punctured, except on the apex. Metanotum roundly depressed, the top in the centre with stout striæ, the sides rugosely punctured; a keel runs down the centre; on the sides at the apex are two yellow, prominent, diverging spines united at the base. The first abdominal segment has a distinct petiole at the base, the apical slope is triangular; smooth, above bordered by an irregular rugose band; the rest of the segment is strongly, closely punctured, the apex is more strongly punctured, it is slightly raised and smooth; the second is clearly longer than wide, narrowed slightly at the base; the punctuation becomes stronger towards the apex, the punctures there being wide, deep; the extreme apex is curled up.

Fedor, Texas; May.

Belongs to *Stenancistrocerus*. Characteristic is the distinct tooth on the hinder coxæ. It has the abdomen formed as in *Nortonia*, but I find so much variation in the structure of the first abdominal segment—it varying from sessile to pedunculate—that I doubt if the form of the basal segment can be used generically.

***Nortonia ? basimacula* sp. nov.**

Black; the basal slope of first abdominal segment red, the red broadly dilated laterally, the apex of clypeus red, a broad curved band on top of clypeus, a small irregular mark above the antennæ and at the end of the eye incision, an elongated conical spot on the outer orbits near the top, a broad mark not quite reaching to the middle, on the sides of the pronotum at the base, postscutellum, a small irregular mark on the sides of the apical slope of metanotum, a band, broadly dilated in the middle, on the apex of the first abdominal segment, a large, irregular spot on the sides of the second near the base, a broad band of equal width on its apex, the band extending more narrowly on to the ventral surface to near the middle, where it is much narrowed, and a large, oblique, somewhat oval spot on the pleuræ below the tegulæ, orange-yellow; antennal scape yellow, tinged with red, the apex black above. Legs bright fulvous red, the coxæ black, the tibiæ at the base tinged with yellow. Wings almost hyaline, largely suffused in front with fuscous violaceous, the stigma dark fulvous, the nervures black. Tegulæ yellow, tinged with fulvous, darker in the centre. ♀. Length 8 mm.

Clypeus pyriform, strongly but not closely punctured, its apex almost transverse. Mandibles red, black at the base, with a white spot in the middle. Front and vertex strongly, irregularly, but not very closely punctured. Temples broad, rounded, its occiput almost transverse, distinctly keeled. Thorax more than twice longer than wide, transverse at the base, the sides not projecting; above it is strongly, closely punctured, except on the centre of metanotum, where

the puncturation is much sparser. Apex of postscutellum broadly rounded outwardly. Sides of metanotum broadly rounded; the puncturation on them runs into reticulations. Propleuræ deeply depressed in the middle, the sides obliquely sloped, smooth. The mesopleuræ as strongly, but not so closely punctured as the mesonotum, except on the basal slope which is smooth. Metapleuræ smooth, sparsely punctured round the edges. The basal slope of the first abdominal segment is almost smooth; its top rough, with an irregular, twisted transverse keel; the base with a short, but distinct neck almost as in *Nortonia*; the rest of the segment is strongly closely punctured; it is cup-shaped, not quite so long as it is wide at the apex; the second segment is distinctly longer than wide, punctured, but not so strongly, nor so closely as the first; its apex is smooth, slightly raised; the other segments are closely, somewhat strongly, punctured; as usual, the puncturation on the second segment is rougher at the apex.

Fedor, Texas; May.

If not quite a *Nortonia* this species certainly forms a transition to that group, *i. e.* the pedicle of first abdominal segment is not so prominent as in *N. tolteca*, but the segment is not sessile, having a short but distinct pedicle.

***Ancistrocerus (Nortonia ?) phoenixensis* sp. nov.**

Black, covered with a white pruinose pile; the underside of the antennal scape, a small square mark over the antennæ, a short, narrow line on the upper outer orbits, two large marks on the sides of the pronotum, obliquely narrowed towards the outside, a small irregular spot in the centre of the apex of mesonotum, postscutellum, a conical mark below the tegulæ, the sides of metanotum broadly, lines on the apices of the abdominal segments, that on the first narrowed laterally and having a short oblique projection at the end, and an oval, oblique mark, of moderate size, on the sides of the second segment at the base, pale whitish-yellow. Legs black, the apices of the four hinder femora, the tibiæ, except on the outside, and the fore femora broadly above, brownish rufous, the rest of the tibiæ and the apex of the fore femora whitish-yellow. Flagellum brownish below. Wings hyaline, the radial cellule smoky, the stigma dark testaceous, the nervures black. The male has the clypeus, a line on the base of the mandibles, a line about three times longer than wide over the antennæ and one on the lower edge of the eye orbits, whitish-yellow. Length 8-9 mm.

The female clypeus pyriform, as long as broad, sparsely, weakly punctured, its apex narrowly but distinctly depressed, and with a shallow incision, the sides of which are straight, oblique. Thorax about twice longer than wide, its base transverse, not projecting laterally, the sides of the apex not very blunt, rounded on inner, flat on outer side. Apex of post-scutellum gradually bluntly narrowed; the basal part is prominent, clearly separated. The first abdominal segment cup-shaped, slightly longer than it is wide at the apex, the base distinctly narrowed into a neck, the second segment is as long as wide, its apex more strongly punctured than the rest.

The male has the underside of the antennal scape pale yellow, as is also the clypeus, the other markings being as in the female, except that the marks on the metanotum are smaller; the underside of the flagellum is orange-brown; the

hook is black and is a little longer than the joint; the middle femora become gradually widened below from the end to the apex of the basal fourth, where it becomes abruptly narrowed and is there hollowed above in front.

Oslar, Phoenix, Arizona; October 4th.

This species is not unlike *O. approximatus* Cam.; the ♂ in that species has the middle femora of normal form. It is not a typical *Ancistrocerus*, there being hardly a transverse ridge on the first abdominal segment, the sole difference being that the basal slope is smooth, the roughness commencing at its top. The form of the first abdominal segment is as in *Nortonia*.

***Pterochilus 5-fasciatus* Say.**

This species is in the collection from Berkeley, Colorado, and Oslar, S. W. Colorado. One specimen is 18, the other 14 mm. long. The size and shape of the black markings on the basal two abdominal segments vary; in one it is shaped like an hour-glass, not continued to the outer edges of the segment at the apex; in another there is a triangle in the middle at the base, the apex of the triangle being at the middle of the segment; from there it is continued broadly to the outer edges of the segment. There is a shallow, semi-circular incision on the apex of the clypeus; the outer edges forming blunt teeth. In the smaller example there is a yellow fascia on the top of the red clypeus, the line on the lower inner orbits being also yellow. Basal joint of flagellum red, the other joints being brownish-red below. Palpal hairs long, rufous, sparse. Apex of postscutellum transverse, the base broadly rounded.

***Pterochilus maculifrons* sp. nov.**

Black; red are: a large triangular mark on the front, its base united above by a transverse line to a broader one on the eye incision, the junction being above the incision; clypeus, mandibles, a broad line on the outer eye orbits, the prothorax, except the basal slope, two marks on the centre of the scutellum, broadest at the base, a line on either side of the black central part of the metanotum, the metapleuræ and two large marks on either side of the black central part of the basal two abdominal segments. Yellow are: a large mark, longer than wide, transverse above, rounded below; a triangular mark on the sides of scutellum, the apex at the base; postscutellum, the sides of metanotum broadly, and the apices of the abdominal segments (the line on the first is dilated backwards laterally, broadly and roundly) and a mark inside the red mark on the second segment, bright lemon-yellow. Legs red, the coxæ marked behind with black. Wings hyaline, the apex largely suffused with fuscous. Length (total) 14 mm. ♀.

Clypeus strongly punctured, less strongly on the top, where it is broadly rounded; it becomes gradually roundly narrowed from the eyes; the apex narrow, transverse. Apical two teeth of mandibles weaker than the basal two. Front and vertex strongly and closely punctured; there is a broad, longitudinal

furrow in the centre of the front. Thorax strongly, closely punctured, the punctuation on the mesonotum running into reticulations. There is a narrow black furrow down the middle of scutellum. The apex of the postscutellum is more rounded than the base. Base of thorax above bluntly rounded, the sides rounded, not projecting. The second and following segments of the abdomen are closely, distinctly punctured; the apical half of the second is depressed, the depression dilated backwards in the middle.

Oslar, Berkeley, Colorado.

This species agrees very closely in coloration with *5-fasciatus*, but is smaller and more slenderly built.

The rounded, not projecting lateral angles of the pronotum form a ready means of separating this species from *5 fasciatus*.

The two may be separated thus:

- Apex of clypeus incised; the front immaculate; clypeus broader than long; apex of postscutellum transverse, base of thorax transverse, the lateral angles acute.....**5-fasciatus.**
- Apex of clypeus transverse; the front with a large triangular red mark; the clypeus nearly as long as broad; apex of postscutellum rounded; base of thorax bluntly rounded, the angles rounded.....**maculifrons.**

Pterochilus pruinus sp. nov.

Black, densely covered with a whitish pile; the clypeus, except narrowly round the apex, a mark, with its upper half broadly dilated, over the antennæ, a line round the eye incision, the outer orbits, broadly above, the mark gradually narrowed below, the base of thorax, the line extended broadly to the middle of propleuræ, tegulæ, two irregular marks on the scutellum, laterally extended at the apex to the wings, postscutellum, a large irregular mark on the sides of median segment, broad lines on the apices of the abdominal segments (that on the first broader and more irregular than the others) and a large conical mark on the top of the base of the mesopleuræ, followed below by a longer, narrower irregular stripe, pale yellow. Legs reddish fulvous, the coxæ, trochanters and base of femora black; the four anterior coxæ spotted with white below; the apex of the middle femora and the outside of the four hinder tibiæ are broadly white. Wings hyaline, the costa and stigma dark fulvous, the nervures black. ♀. Total length 9 mm.

Head clearly wider than the thorax; the temples obliquely roundly narrowed; the occiput roundly incised. Clypeus much broader than long; its apex broadly projecting, transverse, red, with a black, irregular transverse line above. Front closely and strongly, the vertex weakly, the clypeus more strongly, sparsely punctured. Base of thorax transverse, with projecting angles. Base of postscutellum transverse, the apex more rounded. Thorax closely, strongly punctured, except on the metapleuræ, where it is smooth. Abdomen strongly and closely punctured; the first segment cup-shaped; its apex with the punctuation strong and sparse. Palpi long, broad, yellow, tinged with rufous; the hair very long, yellowish-white. Mandibles red, broadly yellow at the base; there are only two distinct teeth.

Oslar, Prescott, Arizona.

Rhygchium dorsale Fab.

A ♀ from Fedor, Texas, and another from Oslar, Berkeley, Col., agreeing with Saussure's figure on Pl. XIII, f. 9 (*Vespides* i). A ♂ from Fedor is very dark colored, the front, vertex, occiput, the greater part of the mesothorax and the abdomen, except the yellow apical margins, being black. It is very variable as regards coloration; the red basal three joints of the antennæ, fuscous violaceous wings and the yellow bands on the basal abdominal segments appear to be common to all the numerous varieties.